REMARKS

Claims 1-35 are pending in this action. Claims 1-11, and 13-35 were rejected. Claim 12 was objected to. Claims 1-35 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting over claims 1-18 of copending Application No. 09/087,689; claims 1-20 of copending Application No. 09/107,246; and claims 1-18 of copending Application No. 09/287,213.

Claims 16-18 and 20-22 were rejected by the examiner as being anticipated by Shah et al., U.S. Application Serial No. 09/175,516, filed October 20, 1998. Claim 19 was rejected under 35 U.S.C. 103(a) as being unpatentable over Shah. Claims 1-11, 13-15, and 29-35 were rejected under 35 U.S.C. 103(a) as being unpatentable over Shah et al., further in view of Aggarwal et al., U.S. Patent No. 5,924,116.

Claim 12 was objected to as being dependent upon a rejected base claim, but noted to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant acknowledges and thanks the examiner for this indication of allowable matter.

Claims 16, 23, and 29 have been amended to incorporate additional limitations. Support for the amendment to claim 29 may be found at page 10, lines 10-27.

Rejections Under 35 U.S.C. §§ 102 and 103

Claims 16-18 and 20-22 were rejected by the examiner as being anticipated by Shah et al., U.S. Application Serial No. 09/175,516, filed October 20, 1998. Claim 16 has been amended to further identify measures of proximity used. Shah generally relates topropagating data from a mirrror site (server) to a requesting client. Shah discloses a method for measuring round trip time between a mirror site and a client *in response to a request* for content from a client. It is not involved with anticipating requests from a client or a group of clients. Although Shah teaches a method for measuring round-trip time between a client and mirrored sites, no mention is made of specific measures of proximity such as congestion, noise and loss on a network segment, or charges incurred to send, all now identified in claim 16. Applicant submits that Shah does not include all elements of the present invention and therefore cannot anticipate claims 16-18 and 20-22. Therefore, for at least these reasons, applicant submits that Shah does not teach or

suggest all elements of claim 16. Claims 17-22 depend from claim 16 and are submitted to be allowable based on their dependency from allowable claim 16.

Claims 1-11, 13-15, and 29-35 were rejected under 35 U.S.C. 103(a) as being unpatentable over Shah et al., further in view of Aggarwal et al., U.S. Patent No. 5,924,116. Applicant respectfully traverses the rejections on these grounds. Applicant submits that Shah, in combination with Aggarwal, fails to teach all elements of the claimed invention. Furthermore one skilled in the art and aware of the teachings of Shah would have no motivation to look to the teachings of Aggarwal.

Claim 1 is distinguishable from Shah first on its focus on anticipation of the need for content by network clients. As noted above, Shah generally relates to propagating data from a mirror site (server) to a requesting site (client). In contrast, the method delineated by claim 1 recites determining the location of clients *that are likely to access the content* and determining separate proximities between the clients and a first and second server *capable of serving the content.* The recitations in step d in claim 1, "based upon the relative values of the first and second proximities, loading the content into one of the first and second servers", reinforce that the teachings of the present invention are focused on anticipating which clients may request content and which of the capable servers should be loaded with the content. Shah, in contrast, responds to actual requests for data from client computers and compares the measures of the round trip times from mirror services already having the content. Thus, claim 1 is generally directed to positioning (loading) content whereas Shah is directed to propagating the data from existing servers (mirror sites).

Specifically, Shah teaches only determining proximities between servers already having the content stored and clients already involved in the process of accessing the content. For example, a client is defined and described in the background as an entity which attempts to access a service. The mirrored sites described refer to the several computers utilized to host the same web page. (page 2, lines 6-11). Thus the problems addressed in claim 1 of the present invention, i.e., identifying servers to store content, aren't contemplated by Shah since the servers in Shah already have the data. Therefore, one skilled in the art, aware of the teachings of Shah, would not be motivated to look to the teachings of Aggarwal relating to collaboratively caching information.

Aggarwal relates to methods used to determine whether an object is cached by a local proxy server and has nothing to do with clients likely to request the object. Aggarwal teaches determining whether to load content to a particular proxy based on whether the content is loaded at a next higher level proxy. Aggarwal also teaches considering factors as including the frequency of access of the object, the size of the object, and the replacement cost (the access time to get it if not cached) (col. 7). But all of these factors are viewed without respect to whether a particular client is likely to access the content. Thus, neither Aggarwal nor Shah teaches selecting a server based on locations of clients likely to request the object or selecting a server capable of storing the content based on proximities with respect to those identified clients. Aggarwal's reliance on frequency of access of the object is a function of the object's popularity and not the proximity between the servers and clients as specified in the claim.

Therefore, Aggarwal even in combination with Shah, fails to teach all of the elements of claim 1. Moreover, one skilled in the art would not be motivated to look to Aggarwal to modify the methods or structures identified in Shah. Shah is not concerned with the problems of loading content to a server but rather generally as to selecting which server or "mirror", already having the content, to use for supplying a client. Claims 2-12 are dependent upon claim 1 and are submitted to be allowable for at least the reasons discussed above with respect to claim 1.

Claims 13 and 14 are independent claims while claim 15 depends from claim 14. Claim 13 may be distinguished from Shah at least by the limitations that the client or group of clients are *those likely to access the content* and by the fact that the first and second servers are *capable of storing and serving the content*. In claim 14 , the first server currently stores the content, similar to the servers described in Shah. The second server expressly does not currently store the content but has the *capability of storing and serving the content*. Thus claims 13-15 are distinguishable from the teachings or suggestions of Shah and Aggarwal as described above with respect to claim 1.

Claim 29 is a content control system claim and has been amended to more clearly define the proximity factors. Applicant submits that for at least the same reasons as discussed above with respect to claim 1, the proximity factors distinguish claim 29 from any teachings or suggestions in the Shah, Aggarwal, or the combination of them. Claims 30-35 are dependent upon claim 29 and are submitted to be allowable for at least the reasons discussed above with respect to claim 1, i.e. that they depend from an allowable base claim.

Claims 23 and 26-28 were rejected by the examiner under 35 USC 102(e) as being anticipated by Aggarwal et al. Claim 23 has been amended to further indicate measures of proximity used. Applicant submits that claim 23 is distinguishable from the teachings of Aggarwal in that Aggarwal refers to making decisions as to content loading based on replacement costs. Aggarwal refers to access times, pinging the proxy, and estimating overhead and transmission time (col. 10, lines 1-9) but fails to teach any of the proximity factors or combinations recited in claim 23. Aggarwal fails to teach using bandwidth, number of hops, congestion, noise and loss on a network segment, or charges incurred to send. Aggarwal's use of access time as a measure of replacement cost is not equivalent to use of the specific factors or combinations of the factors identified in claims 23 and 28. Moreover, the teachings of Aggarwal are unclear as to whether a direct proximity comparison is made between two content items (replacement candidates). It appears that any determination of replacement candidates is a function of time to obsolescence, instead of a direct proximity comparison (col. 10, lines 1-30). Aggarwal does teach that a determination is made as to whether the object should be exchanged with the tentative replacement. (col. 9, lines 25-38). This is distinguishable from the teachings of claim 23 which compare two stored content items, releasing one based on the relative values of the proximities. Therefore, for at least these reasons, claim 23 and independent claims 24-28 are submitted to be distinguishable from Aggarwal.

Nonstatutory Double Patenting Rejection

The Examiner had provisionally rejected claims 1-35 under the judicially created doctrine of obviousness-type double patenting over claims 1-18 of copending Application No. 09/087,689; claims 1-20 of copending Application No. 09/107,246; and claims 1-18 of copending Application No. 09/287,213. Applicant submits that the claims of the present invention are patentably distinct from the copending applications referenced.

The claims recited in Application No. 09/107,246 involve selecting a mirrored service in a network environment. However, the criterions mentioned are different from the proximity factors identified in the context of the claims of the present invention. Selecting the mirrored service is based on providing and comparing border gateway protocol attributes. The claims referenced don't teach using specific proximity factors such as, for example, noise and congestion as mentioned in the present claims.

The claims 1-18 recited in Application No. 09/287,213 relate generally to a method of using a hierarchy of metrics to select an electronic service. Second priority levels of metrics are selected when the metrics relating to the first priority level are approximately equal. Again no specific mention is made of the use of the specific proximity metrics such as noise and congestion. Furthermore, there are no limitations in those claims directed to proximities with respect to clients likely to access content.

Application No. 09/087,689 is directed generally to specific measures for determining round trip times in networks. No mention is made of using other proximity measures such as quality of service metrics. At a minimum, the noise and congestion factors used in the claims of the present invention render the present application's claims patentably distinct.

Applicant submits, for at least the foregoing reasons, that the claims of the present invention are patentably distinct from the Applications identified by the Examiner and therefore are not subject to provisional rejection under obvious-type double patenting doctrine.

Conclusion

Accordingly, it is submitted that all issues in the Office Action have been addressed, and withdrawal of the rejections is respectfully requested. Applicant believes that this application is in condition for allowance, and requests a prompt passage to issuance. If the Examiner believes that a telephone conference would expedite the prosecution of this application, he is invited to contact the Applicant's undersigned attorney at the telephone number set out below.

Respectfully submitted,
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APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

CLAIMS

16. (once amended) A method of selecting a server to fill a client request for content, the method comprising:

(a) determining that one or more clients needs or will need to receive the content;

(b) determining a first proximity between the one or more clients and a first server capable of supplying the content;

(c) determining a second proximity between the one or more clients and a second server capable of supplying the content; and

(d) based upon the relative values of the first and second proximities, choosing one of the first and second servers to fill client requests for the content, wherein at least one of the first and second proximities is determined by at least one of the following factors: congestion, noise and loss on a network segment, and charges incurred to send.

23.(once amended) A method of releasing stored content items from a server to make room for new content items, the method comprising:

(a) identifying, on the server, a first stored content item and a second stored content item;

(b) determining a first proximity between the server and a source of the first stored content item;

(c) determining a second proximity between the server and a source of the second stored content item; and

(d) releasing one of the first and second stored content items based upon the relative values of the first and second proximities, wherein at least one of the first and second proximities is determined by at least one of the following factors: bandwidth, number of hops, congestion, noise and loss on a network segment, and charges incurred to send .

29. (once amended) A content control system for propagating content on a network, the content control system comprising:

an interface to the network; and

a processor and a memory coupled to said processor, the processor and memory configured or designed to determine proximities of network nodes to one another and to propagate content to one of said nodes based upon a proximity determination, wherein at least one of the proximities is determined by at least one of the following factors: congestion, noise and loss on a network segment, and charges incurred to send .